EXFO MobileXplorer

- Completely automated radio network validation solution for LTE-A, 4G LTE, 3G HSPA+, 2.5G EDGE/ GSM and WiFi technologies.

KEY FEATURES

4.5G LTE-A: Carrier aggregation bands, primary and secondary cells, EARFCN, RSRP, SINR, RSRQ, RSSI, neighbor cells, PCI Locking, Transmit mode, RB slots, block size, modulation, CQI, sub-bands, MIMO, CSFB, VoLTE (SIP signaling, latency, loss, jitter, POLQA audio quality), etc.

4G LTE: Band, EARFCN and PCI locking, RSRP, SINR, RSRQ, RSSI, neighbor cells, Transmit mode, RB slots, block size, modulation, CQI, sub-bands, MIMO, etc.

3G HSPA+: Band, UARFCN and PSC locking, Ec/Io, RSCP, RSSI, PSC, CQI, active set, monitored set, compressed mode, detected set, BLER, Tx power, RLC throughput, CS Voice (PESQ/ POLQA Audio Quality), etc.

2G GSM/2.5G EDGE: Band and ARFCN locking, RxLev, RxQual, C/I, Tx power, C1, C2, serving cell measurements, neighbor cell measurements, CS Voice (PESQ audio quality), etc.

WiFi: BSSID, SSID, RSSI, IP address, link speed, MAC address, encryption, instantaneous channels and frequency usage, ISP, etc.

BENEFITS

Reduce manual test and analysis times by 90%, thanks to fully automated test procedures

Reduce analysis times of highly skilled engineers by 50% thanks to fully automated and detailed Microsoft Excel reports

Cell locking/forcing for LTE, WCDMA and GSM supported on one handset

Easy access to logs and reports from multiple access points— handset, replay and server dashboards

Integrated Google Maps and Google Earth on the handset and server to aid high-level overview or interactive drill-down

Small cell coverage and walk tests made easier with floor-plan pictures and automated tests on the handset

Bring-your-own-device (BYOD) software only, OR software with handset options

COST-EFFECTIVE RADIO NETWORK TESTING SOLUTION

RF network field engineers and deployment teams now have a cost-effective, mobile-handset solution that provides in-depth RF and Layer-3 message analysis, while also helping network engineers replay, analyze and fix problems related to radio access technology (RAT) coverage, CS-domain voice and PS-domain data and video services.

Harnessing the power of smartphone devices, EXFO MobileXplorer uses automated tests to validate wireless networks and troubleshoot coverage during rollouts of cell sites, small cells and walk tests. EXFO MobileXplorer also supports cell-locking/forcing (on compatible phones), giving engineers the ability to lock onto the specific radio access technology/frequency/cell of interest and run tests without having to move around.
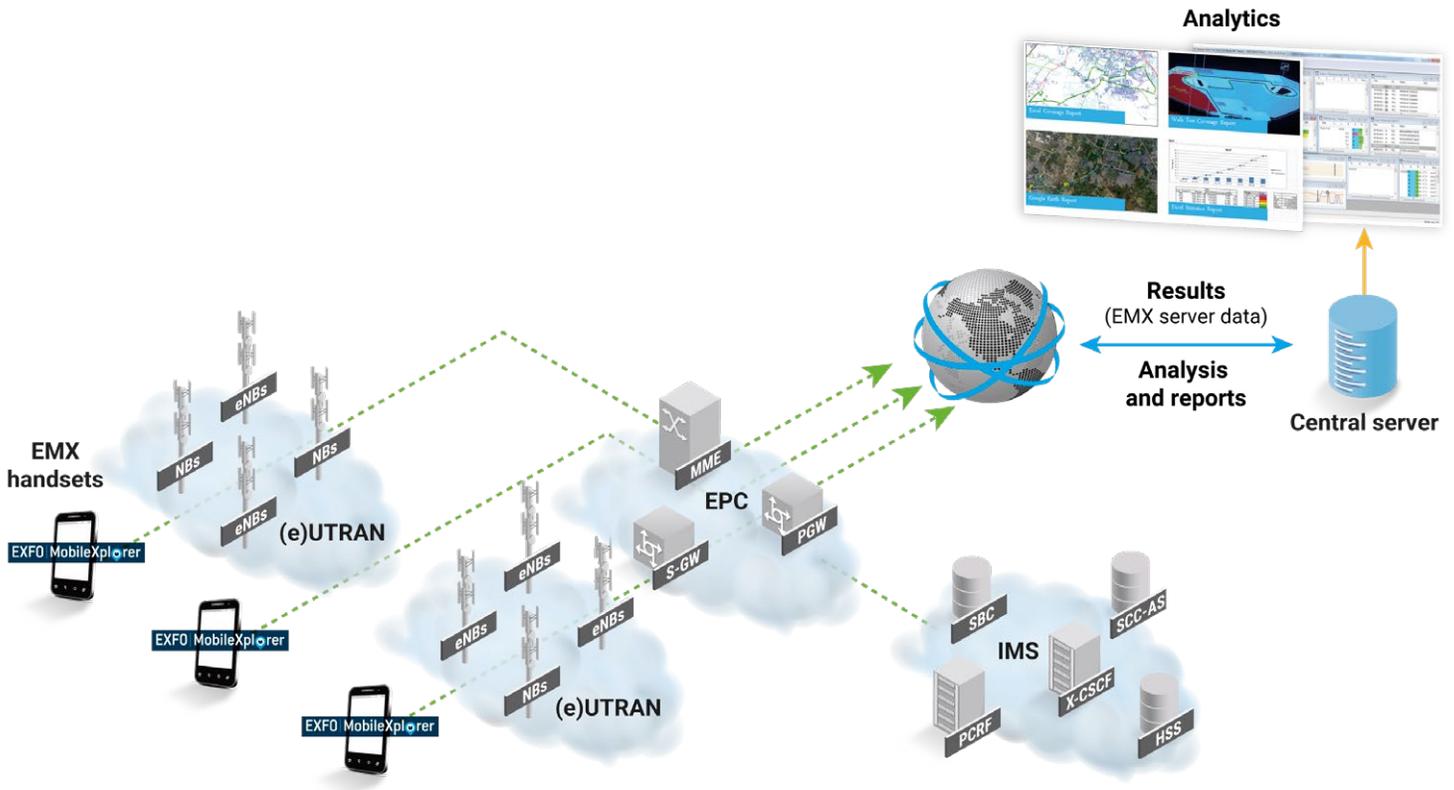

Figure 1. EXFO MobileXplorer network deployment

MobileXplorer—Use cases

1. Automated triple-play service validations

- **Voice:** VoLTE, CSFB, emergency calls, SMS, handovers, voice + data.
- **Data:** MMS, HTTP (UL/ DL), FTP (UL/ DL), browse, ping, traceroute, WiFi.
- **OTT Apps:** YouTube, Ookla Speedtest, Dropbox, Facebook, Instagram, LINE.
- **WiFi Analysis:** Automated WiFi coverage and throughput analysis with maps.

2. Automated carrier aggregation, VoLTE, locking and emergency service validations

- **Carrier aggregation:** Primary and secondary carrier analysis.
- **VoLTE:** Radio and SIP signaling, SRVCC, failures, MOS (POLQA, PESQ).
- **PCI locking:** Reduce manual test and analysis times without device restart.
- **Emergency calls:** Accuracy analysis using operator- and device-provided details.

3. Automated indoor Small Cells and walk test validations

- **Validations:** Using indoor floor plans for multistory buildings, malls, residential, etc.
- **Automated reporting:** Automatically generated EXCEL reports overlaid with color-coded Google Maps and floor plans.

EXFO MobileXplorer HANDSET

- **Tests**: Voice (VoLTE, VoWiFi, CSFB and CS with MOS analysis options), data (FTP/ HTTP upload/download, ping, traceroute, MMS, SMS), video (YouTube), applications (Facebook, Dropbox, OOKLA Speedtest, LINE), TCP dump, cell forcing (on supported devices).
- **Handset replay**: Replay logs at multiple speeds on the handset for quick access.
- **In-car mode**: Tests automatically initiated when powered by a car charger, auto upload and autoboot.
- **Scheduled/Automatic mode**: Tests scheduled and executed automatically from EMX server.
- **Manual mode**: Tests launched from the application.
- **Indoor mode**: Test and analyze indoor signal coverage using fire-escape floor-plan pictures.
- **GUI display**: Live LTE-A, LTE, VoLTE, 3G HSPA+, GSM, EDGE radio parameters, and Maps (Google, Indoor) displayed on the handset.

EXFO MobileXplorer SERVER

EXFO MobileXplorer logs are uploaded to the central server once the tests are completed. The server provides geolocation dashboards with heat maps and trend graphs of radio networks for extensive analysis. Supported search functions include tag, area, date, problem type and unit group.

The server automatically analyzes uploaded logs, generates MS Excel analysis reports, and e-mails them directly to the handset. The Export Log feature can be used to combine multiple logs. CSV/TXT/KML file formats can be imported into Mapinfo, Actix and Google Earth. All relevant radio parameters are mapped onto Mapinfo/MapXtreme screenshots and automatically saved in Excel reports.

EXFO MobileXplorer REPLAY

Replay EXFO MobileXplorer logs using desktop computers/laptops to analyze RF coverage and issues for all supported wireless technologies. Perform detailed analysis and troubleshooting using radio protocol messages and parameters. Export logs to multiple formats. Combine multiple logs and customize reports at your own discretion.

SYSTEM REQUIREMENTS

EXFO MobileXplorer Handset: Handsets with Android versions — 5.1, 5.0, 4.4, 4.2, 4.1

EXFO MobileXplorer Server: Intel Xeon platform with Windows Server OS

EXFO MobileXplorer Replay: Intel Core i3 or equivalent platform with Windows 7 or newer OS

For detailed system requirements, contact your local EXFO sales team at **www.EXFO.com/contact**.

SYSTEMS AND SERVICE ASSURANCE

About EXFO's Systems and Service Assurance Division

The Systems and Service Assurance Division offers converged solutions that allow the world's largest service providers and enterprises to deliver reliable and high-quality experiences in voice, video, data and mobile services. The division brings a proven heritage of IP expertise unique to the service assurance marketplace, and collaborates closely with its customers and partners to assure the delivery of any IP-based service, over any network, to any endpoint.

EXFO's seamlessly integrated hardware and software products, collectively called the Brix System, proactively monitor IP service and application quality. Network operators use the Brix System to guarantee the successful launch and ongoing, profitable operation of their various IP services.

Listed on the NASDAQ and TSX stock exchanges, EXFO is among the leading providers of next-generation test and service assurance solutions for wireline and wireless network operators and equipment manufacturers in the global telecommunications industry. The company has a staff of approximately 1500 people in 25 countries, supporting more than 2000 customers worldwide. For more information, visit **www.EXFO.com**.

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EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to **www.EXFO.com/contact**.